



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/528,553	03/20/2000	Ulf Gustafson	46586-2	4954

24112 7590 12/08/2003
COATS & BENNETT, PLLC
P O BOX 5
RALEIGH, NC 27602

EXAMINER

DO, NHAT Q

ART UNIT PAPER NUMBER

2663

DATE MAILED: 12/08/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/528,553

Applicant(s)

GUSTAFSON ET AL.

Examiner

Nhat Do

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-60 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9, and 12. 6) ☐ Other: _____

DETAILED ACTION

Status of claims

On October 16, 2000, a first preliminary amendment (preliminary amendment A) was filed, which added claims 12-26. Of the added claims 12-26, claims 12 and 13 are independent and claims 14-26 are dependent claims, which directly or indirectly depend from original claim

1. By this amendment, claims 1-26 were pending in the application.

On May 03, 2001, a second preliminary amendment (preliminary amendment B) was filed which canceled original claims 1-11 and added claims 12-45.

Due to the preliminary amendment B, the numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered.

When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not). Accordingly, claims 12-45 filed by preliminary amendment B have been renumbered 27-60, respectively.

Furthermore, due to the cancellation of original claims 1-11 by preliminary amendment B, claims 14-26 (filed by preliminary amendment A) are now incomplete.

Applicant is requested to make appropriate corrections to the numbering of the claims and their corresponding dependencies in response³² to this office action

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2663

2. Claims 14-51 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 14-26 are indefinite because the claims depend on cancelled claims.

Claim 27, lines 3, 4 contain the phrase “configured to...”

Claim 31, lines 3, 5, 8, 11 contain the phrase “configured to...”

Claim 35, line 3 contains the phrase “configured to...”

Claim 37, line 4 contains the phrase “configured to...”

Since the use of the language “configured to...” makes the corresponding claims vague as to whether the functional limitations are within the scope of the claimed subject matter when there are no corresponding structures recited that perform these particular functions.

Since the functional limitations are not positively recited, the actual functions such as “maintain a packet service profile” (claim 27) or “communicate packet data over the packet carrier” (claim 31) are modified by the expression “configured to”. These make it not clear whether the claimed subject matter includes devices that perform the associated functions or not. Since the specification fails to provide guidance in how to properly interpret the meaning of “configured to”, the scope of the invention is not clear. Applicants should either cancel this phrase, or provide written guidance in interpreting this phrase in order to establish a definite boundary to the claims’ scope of protection.

Claims 28-30, 32-34, 36, and 38-51 are indefinite because of the dependence.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 27-35, 42-46, and 48-50 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S Patent. No. 6,301,471 to Dahm et al.

The references appear in parentheses.

Regarding to claim 27, Dahm et al disclose a system comprising:

A packet authentication center PAC (the customer service server 440) configured to maintain a packet service profile for each of a plurality of mobile devices in the wireless communication system (the customer service server 440 containing customer profile information (Col. 10, lines 13-28)); and

An access control server ACS (the proxy server 404) communicatively coupled with the PAC (the server module 428 in the proxy server 404 requests customer information form the customer server 440 when a connection is established (Col. 9, line 65-col.10, line 5)), the ACS configured to manage packet data services for the plurality of mobile devices based, at least in part, on their respective packet service profiles (the proxy server executes request by accessing the resource information associated with the subscriber identification (Col. 10, lines 59-65)).

Art Unit: 2663

Regarding to claim 28, Dahm et al disclose:

The PAC (the proxy server 404) and the ACS (the customer service server 440) communicate over an Internet protocol (IP)-based communication link (Col. 10, lines 1-12).

Regarding to claim 29, Dahm et al disclose:

The ACS (the proxy server 404) uses the packet service profiles to authenticate mobile devices in the plurality of mobile device (Col. 10, lines 1-12).

Regarding to claim 30, Dahm et al disclose:

The wireless communication system comprising a plurality of bearers associated with different packet data services, wherein the ACS provides bearer control and mobility management for the respective mobile devices (the proxy server executes request by accessing the resource information associated with the subscriber identification (Col. 10, lines 59-65)).

Regarding to claim 31, further to the rejection of claim 12, Dahm et al disclose:

Packet data carrier (the wireless network operates HDTP/UDP (Col. 9, lines 17-27));

A plurality of mobile devices configured to communicate packet data over the packet data carrier (the system provides service to a plurality of mobile devices (Fig. 3));

A base station configured to communicate with the respective mobile devices over the packet data carrier; and a packet data service access monitor (the carrier infrastructure 408 communicates with the mobile devices and the proxy server (Fig. 4)),

Regarding to claim 32, Dahm et al disclose:

The ACS and the base station communicate over an Internet protocol (IP) based communication link (the protocol used between the proxy server and the mobile unit is UDP (Col. 5, lines 28-35)).

Art Unit: 2663

Regarding to claim 33, Dahm et al disclose:

The packet data includes packetized voice data (the protocol used between the proxy server and the mobile unit is UDP (Col. 5, lines 28-35); the connection types are voice, internet, and inbox (Col. 10, lines 41)).

Regarding to claim 34, Dahm et al disclose:

The ACS (the proxy server 404) is configured to track and maintain a session profile for each packet data communication involving a respective mobile device (the proxy server 404 collects and updates user information (Col. 10, lines 30-34)).

Regarding to claim 34, further to the rejection of claim 27, Dahm et al disclose:

The wireless portion is a code division multiple access network (Col. 7, lines 20-28)).

Regarding to claim 35, the mobile devices uses different bearers to access different packet data servers is an inherent feature in system of Dahm et al.

Regarding to claim 42, Dahm et al disclose:

The packet service means within the access control server services packet-switched data only communications with the mobile station within the code division multiple access communication network (the proxy server communicates to the land net using HTTP/TCP protocol (Col. 7, lines 13-16)).

Regarding to claim 43, Dam et al disclose:

The access control server is an Internet Protocol (IP) entity comprising means therein for setting up and maintaining at least one packet data session (Col. 10, lines 59-65).

Regarding to claim 44, the claim recites the rejected limitation of claim 27, which is:

Art Unit: 2663

A Packet Authentication Center PAC (the customer service server 440) in communication with the access control server.

Regarding to claim 45, the claim recites the rejected limitation of claim 29, which is:

The PAC contains subscriber profiles for authentication and authorization of packet data.

Regarding to claim 46, the claim recites the rejected limitation of claim 42, which is:

The packet data service network (PDSN) in communication with the base transceiver station.

Regarding to claim 48, the claim recites the rejected limitation of claim 42, which is:

The PDSN is in communication with the base transceiver station via a packet control function.

Regarding to claim 49, the customer service server is also equivalent to the claimed AAA because the customer service server comprises authorization, authentication, and account information.

Regarding to claim 50, the claim recites the rejected limitation of claim 34, which is:

The access control server maintains and updates a subscriber packet service subscription profile and actual packet session characteristics.

5. Claims 12, 13, and 58-60 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,487,406 to Chang et al.

The references appear in parentheses.

Regarding to claims 12, 13, and 58, Chang et al disclose a system performing:

Art Unit: 2663

Transceiving a packetized communication between a mobile station and a base transceiver station (Using a packet channel protocol to transceive computer traffic between the BS 16, and the MS 18 (Col. 4, lines 5-10)); and

Processing, by an access control server (BSC) within the telecommunications system, the packetized communication, the access control server being connected to the base transceiver station to transceive the packetized communication there between, the packetized communications bypassing the MSC (the BSC separates data traffic and forwarding to a gateway router (Col. 4, lines 10-19)).

Regarding to claim 59, Chang et al disclose:

Transmitting, by the mobile station, the packetized communication to the base transceiver station (Using a packet channel protocol to transceive computer traffic between the BS 16, and the MS 18 (Col. 4, lines 5-10)); and

Forwarding, by the base transceiver station, the packetized communication to the access control server, the packetized communication bypassing the MSC (the BSC separates data traffic and forwarding to a gateway router (Col. 4, lines 10-19). Furthermore, for the MS 18 communicates with the Internet network 34 as disclosed by Chang et al (Fig. 2), it is inherent that packetized data is forwarded by BS 16 to the BSC 14).

Regarding to claim 60, Chang et al disclose:

Receiving, at the access control server, the packetized communication; and forwarding, by the access control server, the packetized communication to the base transceiver station, the packetized communication bypassing the MSC (For the MS 18 communicates with the Internet

Art Unit: 2663

network 34 as disclosed by Chang et al (Fig. 2), it is inherent that packetized data is received by the BSC 14, and the BSC 34 forwards the packetized communication to the BS 16).

6. Claim 37 is rejected under 35 U.S.C. 102(b) as being anticipated by WO 98/32301 filed by Nordman.

Nordman discloses a method comprising:

Generating a registration request at the mobile device, the registration request comprising circuit switched specific parameters and packet data specific parameters (the mobile terminal 16 generates a request (Page 11, lines 1-6). It is inherent that the circuit switched (authentication information), and packet switched parameters (WHI, address of IP network 14) stored in the mobile station (Page 8, line 27-page 9, line 15) are transmitted in the request because these parameters are used for authenticating, and addressing);

Generating a registration message based on the circuit switched specific parameters in the registration request (the BTS 52 forwarding the request to the MSC/VLR 66 (Page 11, lines 7-8);

Transmitting the registration message to the circuit switched network (the BTS 52 forwarding the request the MSC/VLR 66 (Page 11, lines 7-8);

Authenticating the mobile device in the circuit switched network based on the registration message (the HLR 76 performs authentication (Page 11, lines 8-14));

Generating an authentication message from the packet data specific parameters in the registration request (a value of the WHI associated with the wireless host is forwarding to the IP network (Page 11, lines 15-17);

Art Unit: 2663

Transmitting the authentication message to the packet data network (forwarding the WHI to the SGSN 82); and

Authenticating the mobile device in the packet data network based on the authentication message (authentication is performed to confirmed the mobile terminal (Page 12, lines 5-10)).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 36, 38-41, 47, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahm et al as applied to claim 37 above, and further in view of Chang et al.

Regarding to claim 38, Dahm et al fail to disclose a mobile services switching center in communication with the base transceiver station; the mobile services switching center servicing circuit-switched communications with the mobile station.

Chang et al disclose a system in figure 2 comprising: a mobile services switching center (MSC 13) in communication with the base transceiver station (BS 16); the mobile services switching center (MSC 12) servicing circuit-switched communications (PSTN 20) with the mobile station (MS 18).

A skilled artisan would have been motivated to implement a packet switched network on top of existing circuit switched network in order to provide a flexible architecture for connecting

Art Unit: 2663

a wireless access system to the internet backbone as taught by Chang et al (Col. 1, lines 15-30; col. 3, line 60-col. 4, line 19).

Therefore, it would have been obvious to a person having ordinary skill in the art by the time the invention was made to modify the system of Dahm et al so that it comprises a mobile services switching center in communication with the base transceiver station; the mobile services switching center servicing circuit-switched communications with the mobile station.

Regarding to claim 39, since Chang et al disclose the circuit switched system (the existing system) is a conventional PCS network used for providing voice service (Col. 3, lines 60-67), the circuit switched communication with the mobile services switching center comprises voice only communication.

Regarding to claim 40, Chang et al also disclose the MSC 12 comprises a HLR (Fig. 2).

Regarding to claim 41, Change et al disclose a migratory interface o enable synchronization between the circuit switched and packet switched portions of the system (Col. 4, lines 9-19).

Regarding to claim 47, Chang et al disclose a HA communicates with the PDSN (Fig. 2).

Regarding to claim 51, Chang et al disclose the ACS (BSC 14) is responsible for bearer control and mobile management associated with the packet services (Col. 8, lines 40-54; col. 9, lines 16-40).

9. Regarding to claim 36, Chang et al disclose the access control server is responsible for bearer control and mobility management associated with packet services (the BSC forwards the datagram to new BS based on MS-BS associated table (Col. 6, lines 9-18)).

Art Unit: 2663

10. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nordman as applied to claim 52 above, and further in view of U.S. Patent No. 6,580,699 to Manning et al.

Nordman fails to disclose the mobile device sending a packet data session request to the packet data network; the packet data network authorizing the packet data session request based on a packet service profile associated with the mobile device; The mobile device accessing a traffic channel in the packet data network; and The mobile device opening an R-P connection over the traffic channel for the packet data session.

Manning et al disclose a method comprising: the mobile device sending a packet data session request to the packet data network (step 90); the packet data network authorizing the packet data session request based on a packet service profile associated with the mobile device (steps 94, and 96); The mobile device accessing a traffic channel in the packet data network (step 112); and The mobile device opening an R-P connection over the traffic channel for the packet data session (step 112).

It would have been obvious to a person having ordinary skill in the art by the time the invention was made to modify the method of Nordman so that it also comprises the steps of the mobile device sending a packet data session request to the packet data network (step 90); the packet data network authorizing the packet data session request based on a packet service profile associated with the mobile device (steps 94, and 96); The mobile device accessing a traffic channel in the packet data network (step 112); and The mobile device opening an R-P connection over the traffic channel for the packet data session (step 112). A skilled artisan would have been motivated to so in order to open an R-P connection as taught by Manning et al (Col. 5, lines 40-45).

Art Unit: 2663

11. Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nordman and Manning et al as applied to claim 53 above, and further in view of U.S. Patent No. 6,591,103 to Dunn et al.

Nordman and Manning et al fail to disclose storing information related to the packet data session request and a quality of service in the packet network.

Dunn et al disclose a method comprising:

During the initiation of a call, the user broadcast the information relates to the call and the required quality of service (Fig. 4, step 43). During the hand-off, the system uses the information broadcasted by the user to search for an equivalent channel (Fig. 8A, step 803).

In order to provide the user a guarantee quality service, it would have been obvious to a person having ordinary skill in the art by the time the invention was made to modify the method Nordman combined by Manning et al so that it storing information related to the packet data session request and a quality of service in the packet network.

12. Claims 55-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nordman and Manning et al as applied to claim 53 above, and further in view of U.S. Patent No. 6,560,239 to Frid et al.

Regarding to claim 56, Nordman and Manning et al fail to disclose:

Receiving an incoming circuit switched communication through the circuit switched network; the circuit switched network requesting that the mobile device accept the circuit switched communication; and the mobile device accessing a traffic channel in the circuit switched network in order to accept the circuit switched communication.

Frid et al disclose a method comprising:

Art Unit: 2663

Receiving an incoming circuit switched communication through the circuit switched network (Fig. 3, step 312); the circuit switched network requesting that the mobile device accept the circuit switched communication (Fig. 3, step 314, and 316); and the mobile device accessing a traffic channel in the circuit switched network in order to accept the circuit switched communication (Fig. 3, steps 324, and 330).

In order to enable the user to maintain both packet switched and circuit switched connection as suggested by Frid et al (Col. 1, line 55-col. 2, line 13). It would have been obvious to a person having ordinary skill in the art by the time the invention was made to modify the method of Nordman combined by Manning et al so that it comprises the step of receiving an incoming circuit switched communication through the circuit switched network; the circuit switched network requesting that the mobile device accept the circuit switched communication; and the mobile device accessing a traffic channel in the circuit switched network in order to accept the circuit switched communication.

Regarding to claim 55, and 57, further to the rejection of claim 56, Frid et al do not disclose: notifying the circuit switched network that a packet data session is active for the mobile device in the packet data network/notifying the packet data network that the mobile device is engaged in a circuit switched communication.

However, in order to give the user flexibility in maintaining the connections, a skilled artisan would have been motivated to give the user the option to accept or reject an incoming call from one network while the user is operating at the other network. Therefore, it would have been obvious to a person having ordinary skill in the art by the time the invention was made to notifying the circuit switched network that a packet data session is active for the mobile device in

Art Unit: 2663

the packet data network/notifying the packet data network that the mobile device is engaged in a circuit switched communication.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhat Do whose telephone number is (703) 305-5743. The examiner can normally be reached on 8:30 AM - 5:30 PM Monday - Friday.

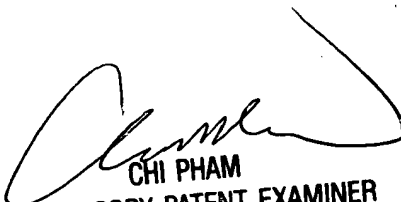
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703) 308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-308-6743.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Nhat Do
Examiner
Art Unit 2663

ND

December 1, 2003.


CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600 12/4/03